



Quality and Innovation

Touch Panel Teaching Pendant TB-03

ELECYLINDER Wireless Link
Program Controller Wired Link, Position Controller
ELECYLINDER Wired Link

First Step Guide Tenth Edition

Thank you for purchasing our product.

Make sure to read the Safety Guide and detailed Instruction Manual as well as this First Step Guide to ensure correct use. This Instruction Manual is original.

Refer to Instruction Manual for notes and cautions regarding the international standards and radio equipment.

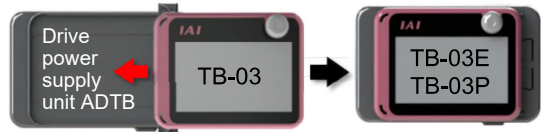


Warning : Read the instruction manual carefully and follow the instruction manual when handling this equipment.
 Please downloaded the user's manual from our website.
 You can download it free of charge. User registration is required for first time users.
 URL: www.iai-robot.co.jp/data_dl/CAD_MANUAL/
 Keep a printout of the introduction manual near the equipment in which this product is installed so that it can be checked at all times, or display it on your computer, tablet terminal, etc. so that you can check it immediately.
 If you need a bound copy of the instruction manual, order it from the nearest sales office listed in the First Step Guide or at the end of the instruction manual. It will be provided for a fee.

- Using or copying all or part of this Instruction Manual without permission is prohibited.
- The company names, names of products and trademarks of each company shown in the sentences are registered trademarks.

Request to Users Purchased TB-03E/TB-03P

The teaching pendant TB-03 and the actuator driving power supply unit ADTB should be delivered separately. Have them joint together by referring to "5. How to Join Unit" in [Actuator Driving Power Supply Unit for Teaching Pendant].



Product Check

The standard configuration of this product is comprised of the following parts.

If you find any fault with the product you have received, or any missing parts, contact us or our distributor.

1. Parts (The option is excluded)

No.	Part Name	Product Number	Q'ty	Reference
1	Main Body	Refer to "How to Read Model Nameplate", "How to Read Product Number"	1	
Accessories				
2	Battery unit	AB-7	1	Provided with the main body
3	Touch pen	TCH-TB03	1	Provided with the main body φ4.5 × 100.5mm
4	ELECYLINDER / Position controller cable	CB-TB3-C050	1	When model <Cable Type> C and SC selected
5	Program controller cable	CB-TB3-S050	1	When model <Cable Type> S and SC selected
6	Conversion Cable	CB-SEL-SJS002	1	When model <Cable Type> S and SC selected
7	AC adapter	UN318-5928 (For use in Japan, North America, Mexico and Thailand) UNZ318-5928 (For use in China) UNE318-5928 (For use in Europe) UNR318-5928 (For use in Korea)	1	Depends on model code <enclosed adapter type>
8	Safety Guide	M0194	1	
9	First Step Guide	ME0378	1	This guide

2. Instruction manuals related to this product.

No.	Name	Manual No.
1	Touch Panel Teaching Pendant TB-03 ELECYLINDER Wireless Link Instruction Manual	ME0375
2	Touch Panel Teaching Pendant TB-03 Position Controller, ELECYLINDER Wired Link	ME0376
3	Touch Panel Teaching Pendant TB-03 Program Controller Wired Link Instruction Manual	ME0377
4	Actuator with Integrated ERC2 Controller Instruction Manual <PIO type/SIO type >	ME0158/0159
5	Actuator with Integrated ERC3 Controller Instruction Manual	ME0297
6	PCP6S Fieldbus Communication Instruction Manual	ME0349
7	ACON-CA/DCON-CA Controller Instruction Manual	ME0326
8	ACON-CB/CGB, DCON-CB/CGB Controller Instruction Manual	ME0343
9	ACON-CYB/PLB/POB, DCON- CYB/PLB/POB Controller Instruction Manual	ME0354
10	PCON-CA/CFA Controller Instruction Manual	ME0289
11	PCON-CB/CGB/CFB/CGFB/CBP/CGBP Controller Instruction Manual	ME0342
12	PCON-CYB/PLB/POB Controller Instruction Manual	ME0353
13	SCON-CA/CAL/CGAL Controller Instruction Manual	ME0243
14	SCON-CB/CGB/LC/LCG Controller Instruction Manual	ME0340
15	SCON-CB-F/CGB-F/LC-F/LCG-F Controller servo press function Instruction Manual	ME0345
16	SCON2-CG Controller Instruction Manual	ME0458
17	SCON2-CG-F Controller servo press function Instruction Manual	ME0470
18	RCON System Instruction Manual	ME0384
19	RSEL System Instruction Manual	ME0392
20	REC System Instruction Manual	ME0394
21	ROBONET Instruction Manual	ME0208

No.	Name	Manual No.
22	ASEP/PSEP/DSEP Controller Instruction Manual	ME0267
23	PMEC/AMEC Controller Instruction Manual	ME0245
24	MSEP-C/LC Controller Instruction Manual	ME0299
25	MCON-C/CG Controller Instruction Manual	ME0341
26	MSCON Controller Instruction Manual	ME0306
27	ASEL/PSEL/SSEL Controller Instruction Manual	ME0165/0172/0157
28	MSEL-PC/PG/PCF/PGF/PCX/PGX Controller Instruction Manual	ME0336
29	XSEL-J/K/KE Controller Instruction Manual	ME0116
30	XSEL-JX/KX Controller Instruction Manual	ME0119
31	XSEL-KT/KET Controller Instruction Manual	ME0134
32	XSEL-P/Q/PC/T/QCT Controller Instruction Manual	ME0148
33	XSEL-PX/QX Controller Instruction Manual	ME0152
34	XSEL-R/S/RX/SX/RXD/SXD Controller Instruction Manual	ME0313
35	XSEL-RA/SA/RAX/SAX/RAXD/SAXD Controller Instruction Manual	ME0359
36	XSEL2 Controller Instruction Manual	ME0478
37	Tabletop Robot TT/TTA Controller Instruction Manual	ME0149/0320
38	ROBOPUMP Instruction Manual	ME3827
39	Instruction Manual of Each Model of ELECYLINDER	---

3. How to Read Model Nameplate

Product number

Serial number



4. How to Read Product Number

T B - 0 3 - S C - E - E N G

< Language option >		Not specified : Screens are displayed in Japanese. (Display can be changed to other language)
ENG		: Screens are displayed in English. (Display can be changed to other language)
CHI		: Screens are displayed in Chinese. (Display can be changed to other language)
< Model code for enclosed adapter >		
No Indication	: For use in Japan, North America, Mexico and Thailand	
C	: For use in China	
E	: For use in Europe	
K	: For use in Korea	
N	: No AC adapter enclosed	

< Cable Type >
 SCN : With No Cable (Main body only)
 C : With ELECYLINDER / Position Controller Cable
 S : With Program Controller Cable and Conversion Cable
 SC : With Program Controller Cable, Conversion Cable and ELECYLINDER / Position Controller Cable

Refer to [Actuator Drive Power Supply Unit for Teaching Pendant] for the model code of the teaching pendant equipped with power supply unit TB-03E/TB-03P.

Supported Models

Supported Models of Position Controller		Supported Models of Program Controller	
Controller model	Supported from version	Controller model	Supported from version
ERC2 ^(Note 1) /ERC3	V1.80	ASEL/PSEL/SSEL	V1.80
ACON/DCON/PCON ^(Note 5) /SCON ^(Note 3)	V1.80	TT/TTA	V1.80
SCON (Servo Press Type)	V1.80	MSEL-PC/PG/PCF/PGF/PCF/PGF	V1.80
SCON2	V4.10	XSEL-J/JX	Not unsupported
MCON ^(Note 2) /MSCON	V1.80	XSEL-K/KX/KT/KRT	V1.80
RCON ^(Note 4)	V2.10	XSEL-P/Q/PC/T/QCT	V1.80
RCP6S/RCP6S-C	V1.80	XSEL-PX/QX	V1.80
RACON/RPCON	V1.80	XSEL-R/S/RX/SX/RXD/SXD	V1.80
ASEP/DSEP/PSEP/MSEP	V1.80	XSEL-RA/SA/RAX/SAX/RAXD/SAXD	V1.80
AMEC/PMEC	V1.80	RSEL	V2.70
REC	V2.70	XSEL2	V4.80
ADTB-PEC	V4.40	ROBOPUMP	V4.70

Note 1 Only ERC2 models with 4904 or higher stamped on the Serial No. sticker can be connected.
 However, touch-panel teaching pendants can be connected to ERC2 controllers of SE type via a SIO converter regardless of their version.
 For details, refer to the instruction manual.
Note 2 Applicable in V3.00 and later for EtherCAT Motion in MCON-C/CG.
Note 3 Applicable in V3.00 and later for EtherCAT Motion in SCON-CB/CGB.
Note 4 Applicable in V3.10 and later for SSCNET III/H, MECHATROLINK-III and EtherCAT Motion in RCON.
Note 5 Applicable for PCON-CBP/CGBP from V3.50 and later.

ELECYLINDER Supported Models	
Please check our homepage or instruction manual. URL : www.iai-robot.co.jp/knowledge/support/teaching_version/EC_support/TB02_03_support.pdf	

Supported Models of Gateway Parameter Setting Tool	
Controller model	Supported from version
MSEP-C	V1.00
MCON-C/CG ^(Note 6)	V1.00
REC	V2.70
Controller model	Supported from version
RCP6S Gateway	V1.00
RCON ^(Note 7)	V2.10

Note 6 SSCNET III/H, MECHATROLINK-III and EtherCAT Motion in MCON-C/CG are not applicable.
Note 7 Applicable in V3.10 and later for SSCNET III/H, MECHATROLINK-III and EtherCAT Motion in RCON-GW/GWG.
Note PLC Feature Equipped Types (MSEP-LC, MCON-LC/LCG and RCON-LC/LCG) are not applicable.

Confirming the Specifications

1. Basic Specification

Item	Basic Specification		
	ELECYLINDER Wireless Link	Position Controller, ELECYLINDER Wired Link	Program Controller Wired Link
Power Supply Voltage Range	24V DC ±10% (Supplied by controller) 5.9V DC (5.7 to 6.3V) (Supplied from AC adapter)		
Power Supply Current	150mA or less (24V DC : Supplied by controller) 2.8A (5.9V DC : Supplied by AC adapter)		
Power Consumption	3.6W or less (150mA or less : Supplied by controller) 16.52W or less (2.8A or less : Supplied by AC adapter)		
Insulation Resistance	500V DC /10MΩ or more between GND and FG		
Grounding	-	Functional ground (by shield in the connection cable with controller)	
LCD / Backlight	7-inch color TFT WVGA (800×480), 65536 colors (16 bits) / White LED backlight		
Backlight Life	15,000 hours		
Touch Panel	4-wire resistive type		
Touch Panel Life	1 million touches		
Wireless Link / Features	Bluetooth 4.2 Class 2	-	
Battery Charge System	Dedicated AC Adapter : Quick charging system with additional charging when fully charged (Wired link to EC : Slow charging with additional charging)	-	
Duration for Wireless Operation	4 Hours Max.	-	
Duration of Charging	Approx. 3 Hours (AC Adapter)	-	
Wireless Operation Battery	300 times of Cycle Durability	-	
Wireless Frequency	2,400 to 2,483.5MHz	-	
Wireless Output	+5dBm	-	
External Memory	SD/SDHC memory card interface installed (1G to 32G) (Toshiba-made recommended)		
Data Storage	Applicable to have data saved to and read from external SD card (Position data, parameter and alarm list)		
Data Backup Battery Life	5 years		
Touch Tone	Turned ON/OFF. Volume is adjustable by 3 stages (High/Medium/Low).		
Display Adjustment	Brightness adjustable for contrast and backlight		
Clock Setting	Clock setting available with real time clock (Backup held with CR2032 button battery)		
Communication Standard	-	Based on RS485	Based on RS232
Communication Speed	-	115,200bps	9,600bps/19,200bps/38,400bps /57,600bps/115,200bps/230,400bps
Cable Length	-	Standard 5m / Max. 10m	
Time from Power OFF to ON	2 sec or more		
Air-cooling System	Natural air-cooling		
Languages	Japanese / English / Chinese		
Mass	Approx. 670g (Main body) + Approx. 285g (cable 5m)		
 SD memory card is a registered trademark for SD-3C, LLC and SDA.			

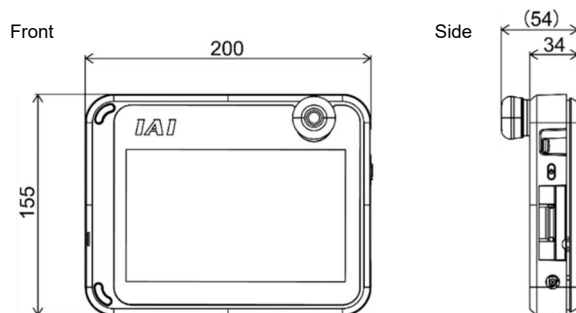
2. Common Specifications for AC Adapter

Item	Specifications
Power Input Voltage Range	Single-Phase 100 to 240V AC±10%
Power Current	0.4Amax.
Power Frequency Range	50 / 60Hz±5%
In-Rush Current	50A (at 25°C)
Output Voltage	5.9V DC (5.7 to 6.3V)
Output Current	2.8Amax.
Cable Length	1500±100mm

3. Environmental Specifications

Item	Environmental Specifications
Ambient Operating Temperature	0 to 40°C
Ambient Operating Humidity	5%RH to 85%RH (Should be no-condensing or freezing)
Ambient Storage Temperature	-20 to 40°C
Ambient Storage Humidity	5%RH to 85%RH (Should be no-condensing or freezing)
Vibration Endurance	Vibration 10 - 57Hz / Amplitude: 0.035mm (continuous), 0.075mm (intermittent) Vibration 57 - 150Hz / Acceleration: 4.9m/s ² (continuous), 9.8m/s ² (continuous) X/Y/Z direction Sweep time: 10 min. Sweep repetition: 10 times
Altitude	1000 meters or less above the sea level
Atmosphere	Environment without corrosive and combustible gas. Avoid using the equipment where there is much dust and oil mist/ cutting fluid is sprinkled.
Pollution Level	II
Degree of Protection	IPX0
Protective Class against Electric Shock	III

External Dimensions

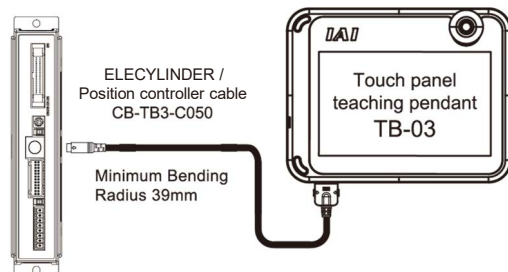


Wiring Diagram for Wire-Linked with Cables

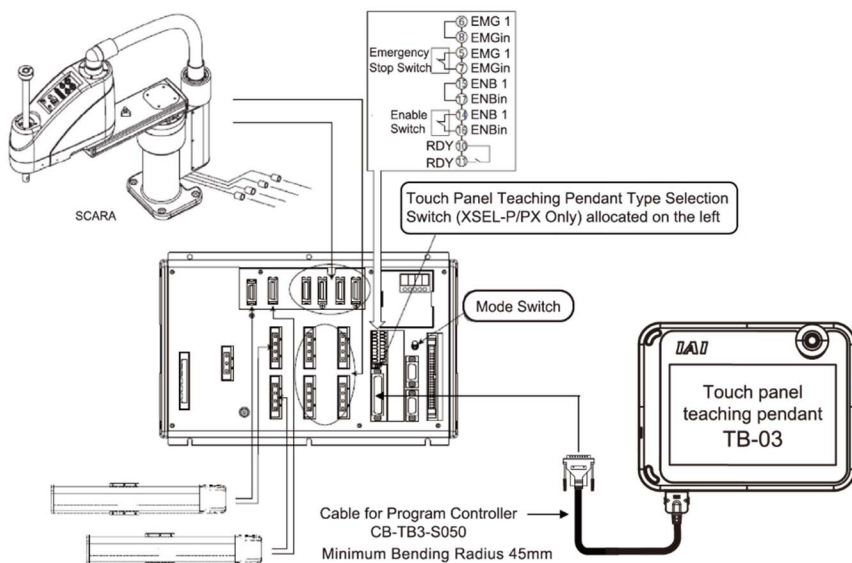
Use the TB-03 unit with cables for each controller connected to the cable ports.

Caution: Turn the controller power OFF before connecting or disconnecting the Touch Panel Teaching Pendant TB-03.

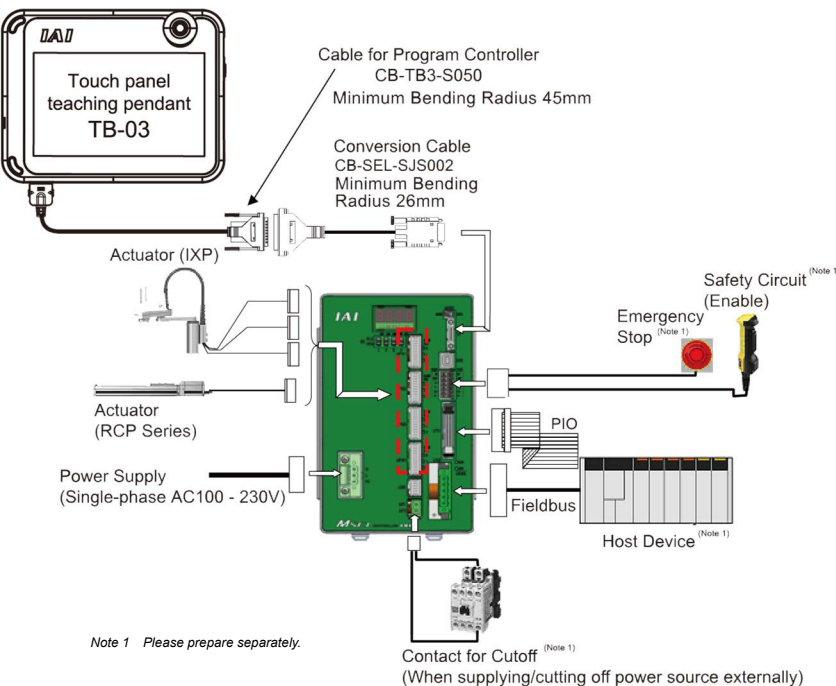
- (1) Position controller ERC2, ERC3, RCP6S, RCM-P6□C, ACON, PCON, SCON, SCON2, DCON, MCON, MSCON, RACON, RPCON, RCON, ASEP, PSEP, DSEP, MSEP, AMEC, PMEC, REC, ELECYLINDER, ROBOPUMP (CB-TB3-C050 is used.)



- (2) Program controller XSEL-K/KX/KT/KET/P/PX/PCT/Q/QX/QCT/R/RX/RXD/S/SX/SXD /RA/RAX/RAXD/SA/SAX/SAXD, XSEL2, TT/TTA (CB-TB3-S050 is used.)



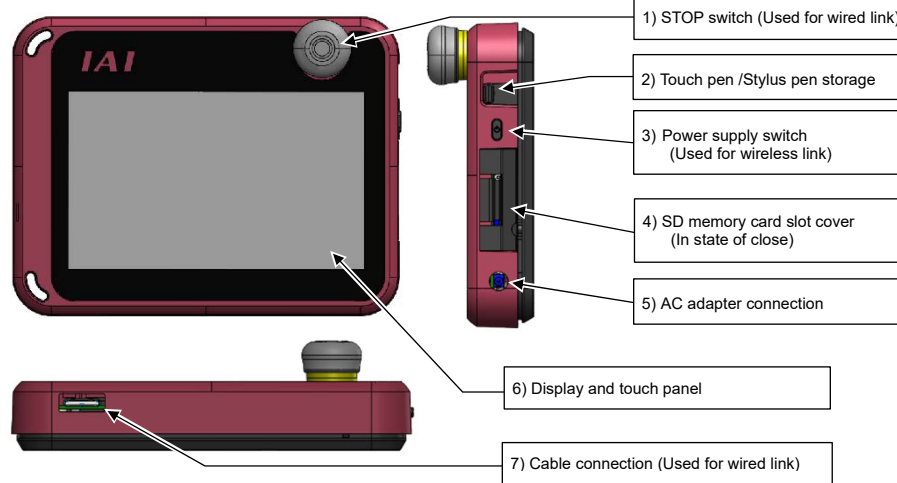
- (3) Program controller MSEL-PC/PG/PCF/PGF/PCX/PGX, SSEL, ASEL, PSEL, RSEL (CB-TB3-S050, CB-SEL-SJS002 is used.)



(Note) For other wiring except connection with Touch Panel Teaching Pendant TB-03, refer to the first step guide or instruction manual of each controller.

Each Part Name

Front and Side Surface



- 1) STOP switch
When the wired link, press it to stop the operation. To cancel, turn this switch in the clockwise direction.

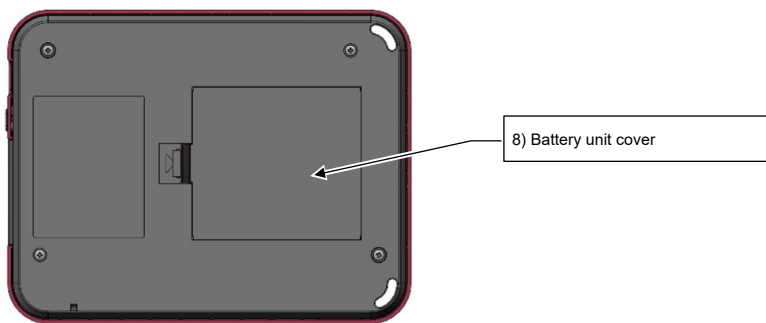
Caution: When the wireless link, operation can not be stopped with the stop switch.

- 2) Touch pen / Touch pen storage
The pen to touch on the touchscreen should be stored here.
- 3) Power supply switch
Press this button in order to turn the power on and off for TB-03 main unit. Press it and hold for 2 seconds or more to turn it off.
- 4) SD memory card slot cover
There is an inlet for SD memory card inside the cover. Refer to instruction manual to set in or out a SD memory card.
- 5) AC adapter connection
It is a connector to have the AC adapter joined in.
- 6) Display and touch panel parts
This screen is configured of a TFT color LCD and touch panel. Use this screen to edit the various setting values and to display the current value display, etc. Touch the touch panel with a finger or touch pen (or fingers) to perform operations.

- *1 In a use of the LCD display for a long term, the brightness may drop. In order to extend the product life of the LCD display, it is recommended to set the turn-off time in the environmental setting to have the automatic turn-off activated or take it off the controller when it is not in use.
- *2 This touch panel is of analog resistance membrane type, so do not touch two or more locations on the screen at the same time. If two or more locations are touched at the same time, the centers of all touched locations may respond and trigger multiple operations.
- *3 When operating the touch panel, do not apply a force exceeding 0.5 N. If any greater force is applied, the touch panel may be damaged.
- *4 The life of touch panel is approx. 1 million touches at the same location. (Assuming a use environment of 25°C)

- 7) Cable connection
Insert a cable applicable for each controller to establish wired link with controllers.

Back



- 8) Battery unit cover
There is the battery unit AB-7 inside the cover. Refer to instruction manual to set in or out the battery unit.

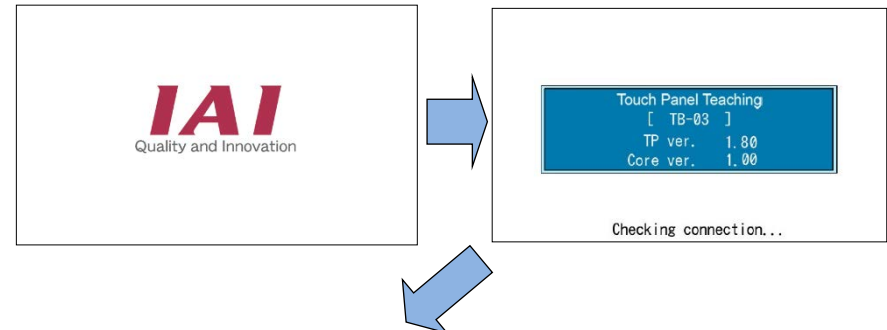
ELECYLINDER Wireless Link (EC Wireless)

Reference for Wireless Link Reachable Distance

It is recommended to have distance between TB-03 and ELECYLINDER of 5m or less with no interruption. The connection may get unstable even in distance of 5m or less depending on the peripheral environment of use. Also, be aware that, even if an axis is displayed in the wireless axis select screen with distance over 5m, the connection could get unstable as the distance goes far.

After turning on the power, IAI logo will be seconds. displayed in the screen

Versions of the teaching and core will be displayed.

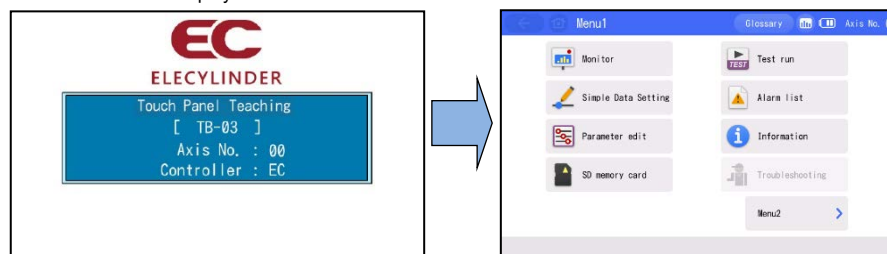


Wireless Axis Selection Screen

- 1) Wireless Icon (Wireless Link Button)
It is an icon to show the status of signal reception. Status of signal reception should be expressed in five patterns, which are 4 levels + no reception of signal. Press and hold this icon to move to a process to establish connection to the applicable axis. This should not be available for an axis linked with wire or an axis with no link established.
- 2) [↑ Pr pg] and [↓ Nt pg] Buttons
You can change pages with these buttons. Four pages (16 axes) should be able to show at maximum.
- 3) [Update] Button
Display in the screen gets erased once and wireless axes data get gathered and displayed again.
- 4) [Offline Function] Button
The display goes to the screen to edit positions (only for EC), establish the main unit environment settings and perform teaching update which are available offline (with no connection to wireless link).
- 5) Page Number
Current page number and total number of pages should be shown.
- 6) Data Display Area
Data for wireless axis should be displayed. Order of display should follow the strength of signal reception. Refer to the instruction manual for the contents of display.

The number of axis to be operated and the type of controller will be displayed.

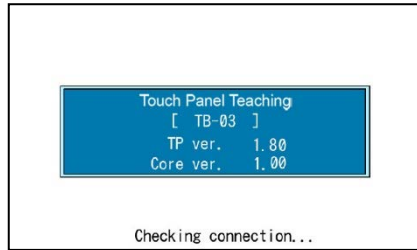
The Menu 1 screen appears.



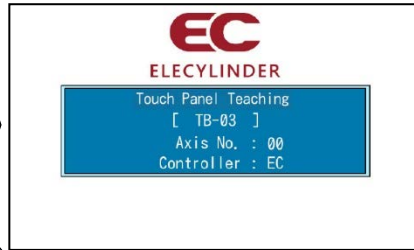
Refer to "ELECYLINDER Operation Menu (EC)" for explanation of each function

Operation Menu for ELECYLINDER (EC)

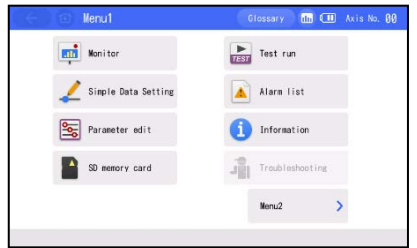
Screen when ELECYLINDER starts (1)



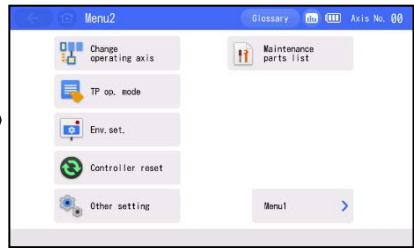
Screen when ELECYLINDER starts (2)



Menu 1 screen



Menu 2 screen



- **Monitor**
Displays the actuator status, I/O signal status, maintenance information and production information.
- **Simple Data Setting**
Setting can be established for position, acceleration (A), velocity (V), deceleration (D) and pressing force to operate an actuator.
Display of the current position and cycle time, and the changing history of AVD settings can be displayed. Test run is also available.
- **Setting of ROBOPUMP**
Adsorption, desorption, monitor display and setting of ROBOPUMP should be conducted.
- **Parameter edit**
Conduct settings such as to adjust operation range or home position, or to change the direction of home-return operation.
- **SD memory card**
Reads and saves the position data, parameters and alarm list. Saving and updates the TB-03 software.
- **Test run**
Performs manual operation and I/O test by specifying jog, inching and numerical values.
- **Alarm list**
Displays an alarm and the time of its occurrence.
- **Information**
Shows the software version, production information, maintenance information and connectable model information.
- **Troubleshooting**
Displays the alarm contents and remedial measure when an alarm occurs.
- **Change operating axis**
An axis subject to display can be selected when multiple axes are connected.
- **TP op. mode**
Prohibits / permits PIO operation and validates/invalidates safety velocity.
- **Env. set.**
Conduct settings for display language, Touch tone, DimDispTime, Data input warning, Disp Axis Name, Ripple compensation, password, display, time and Startup screen setting.
- **Controller reset**
Restarts the controller.
- **Other setting**
Initializing of parameters, changing axis numbers and tuning operation volume can be conducted.
- **Maintenance parts list**
Displays the maintenance parts information.
(Note) For details of operation, refer to the screen display or instruction manual.

← : Returns to the preceding screen.

🏠 : Returns to the "Menu 1" screen.

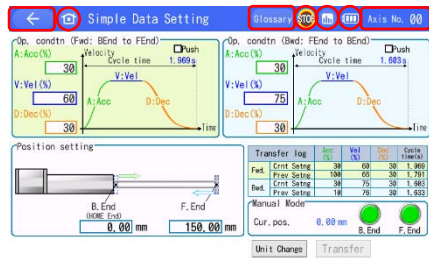
Glossary : Displays the "Glossary" screen.

🛑 : Stop Status Icon (*1)

📊 : Displays the "Monitor" screen.

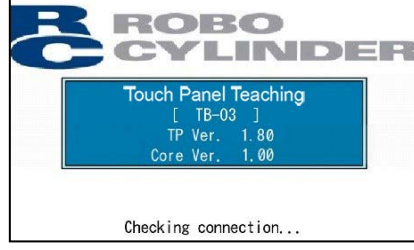
🔋 : Displays the condition and remaining of battery.

Axis No. 00 : Displays the "Change Axis" screen.

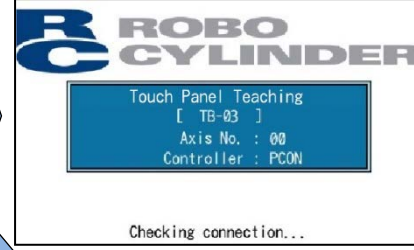


Operation Menu for Position Controller (CON System)

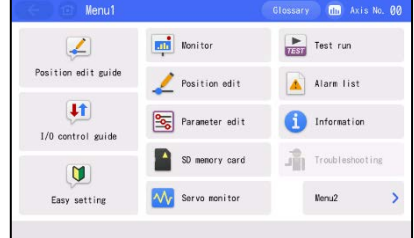
Screen when position controller starts



Screen at CON system controller startup



Menu 1 screen



Menu 2 screen



- **Position edit guide**
Explains the position data input and trial operation according to the real position data editing screen in interactive mode.
- **I/O control guide**
Explains the positioning action by I/O control under the "PIO pattern:0" condition in interactive mode as the user operates the equipment according to instructions.
- **Easy setting**
Sets the data necessary for a desired action from the sample program and performs trial operation in order in interactive mode.
- **Monitor**
Displays the actuator status, I/O signal status, maintenance information and production information.
- **Position edit / Pressing program edit (When a servo pressing type controller is connected.)**
Sets the position, velocity, acceleration, deceleration, etc. to operate actuators. It is available to manual mode.
- **Parameter edit**
Adjusts parameters when adjusting the system and using the attendant functions.
- **SD memory Card**
Reads and saves the position data, parameters and alarm list. Updates the TB-03 software.
- **Servo monitor**
Displays the real operating status of actuator with waveforms. It is possible to record data.
- **Test run**
Performs manual operation and I/O test by specifying jog, inching and numerical values.
- **Alarm list**
Displays an alarm and the time of its occurrence.
- **Information**
Shows the software version, network information, production information, maintenance information and models available for connection.
- **Troubleshooting**
Displays the alarm contents and remedial measure when an alarm occurs.
- **Change operating axis**
Selects an axis to be displayed when the controller can be connected with two or more axes.
- **TP op. mode**
Prohibits / permits PIO operation and validates / invalidates safety velocity.
- **Env. set.**
Conduct settings for display language, Touch tone, DimDispTime, Data input warning, Disp Axis Name, Ripple compensation, password, display, time and Startup screen setting.
- **Controller reset**
Restarts the controller.
- **Others setting**
Conduct parameter initialization and change axis No., load cell calibration, load cell inactivation, I/O customize, encoder cable length setting.
- **Maintenance parts list**
Displays the maintenance parts information.
- **Easy programming**
It is possible to set the movement between positions, timer and repeat of specified times. This screen is used for manual continuous operation.
- **Offboard Tuning**
Sets the off-board tuning.
- **Pulse Train Control Mode**
Sets for performing the pulse train control.

← : Returns to the preceding screen.

🏠 : Returns to the "Menu 1" screen.

Glossary : Displays the "Glossary" screen.

🛑 : Stop Status Icon (*1)
[Refer to previous column]

📊 : Displays the "Monitor" screen.

🔋 : Displays the condition and remaining of battery.

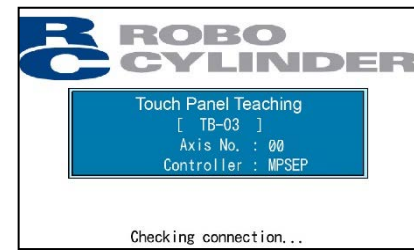
Axis No. 00 : Displays the "Change Axis" screen.

(Note) For details of operation, refer to the screen display or instruction manual.

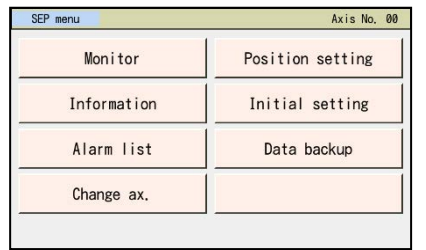
No.	Group	Name	Address	Code	Time (On sec)
0	Other	PowerUP No Error	FFFF	FFF	-----
1	D	Controller encoder alarm	FFFF	0EE	0:10:14
2	D	Controller encoder alarm	FFFF	0EE	0:10:14
3	D	Controller encoder alarm	FFFF	0EE	0:01:51
4	Other	PowerUP No Error	FFFF	FFF	-----
5	D	Controller encoder alarm	FFFF	0EE	0:03:39
6	D	Controller encoder alarm	FFFF	0EE	0:02:00
7	Other	PowerUP No Error	FFFF	FFF	-----

Operation Menu for Position Controller (SEP System)

Screen at SEP system controller startup



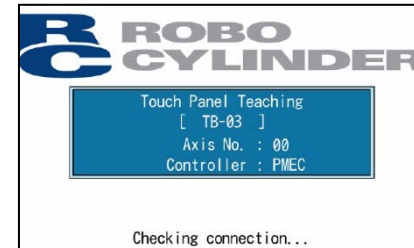
SEP menu screen



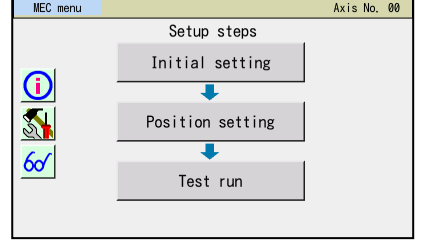
- **Monitor**
Current position, speed, current and system status I/O of the controller is displayed.
- **Information**
Information such as operation pattern and software version is displayed.
- **Alarm list**
List of alarms, duration of occurrence and occurred time is displayed.
- **Change ax.**
Axes to be displayed for a controller available for multiple axes connection can be selected.
- **Position setting**
Settings related to position such as position, velocity, acceleration, push power and push band in order to drive an actuator can be conducted. Also, JOG / Inching movement can be performed.
- **Initial setting**
Setting of operation patterns and operation modes, parameter edit, operation test for I/O and axes and environment setting can be conducted.
- **Data backup**
Reading out and saving of data such as position data, parameters and alarm lists can be conducted.

Operation Menu for Position Controller (MEC System)

Screen at MEC system controller startup



MEC menu screen



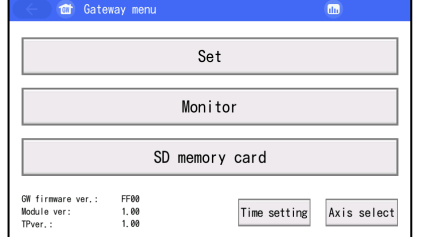
- **Initial setting**
Setting for the operation patterns (2-point stop, 3-point stop) can be conducted.
- **Position setting**
Setting of such as position, pressing force and pressing band, and manual axis operation can be conducted.
- **Test run**
Operation test for axis movement can be conducted.
- **📖 (Information)**
Information such as operation patterns, software version and manufacturing information is displayed.
- **🔧 (Maintenance)**
Parameter edit, I/O test, alarm list display, data backup, environment setting and axis operation change can be conducted.
- **📊 (Monitor)**
Current position, velocity, current and system status I/O of the controller is displayed.

Gateway Parameter Setting Tool

Axis select screen

00	MPSEP	04	MPSEP	08		12
01	MPSEP	05		09		13
02	MPSEP	06		10		14
03	MPSEP	07		11		15

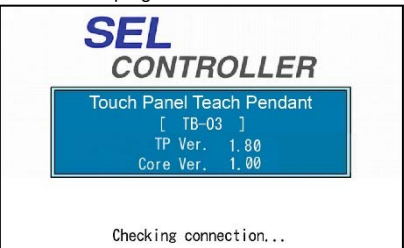
Gateway menu screen



- **Set**
Network setting can be conducted.
- **Monitor**
Data monitor, diagnosis information and alarm list are displayed.
- **SD memory card**
Storage of the gateway setting data to the SD memory card and reading out from the SD memory card are to be conducted.

Operation Menu for Program Controller (SEL System)

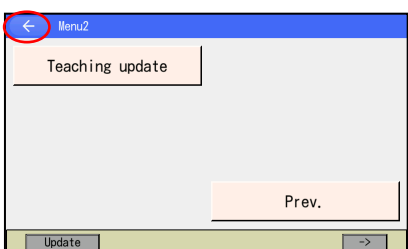
Screen when program controller starts



Menu 1 screen



Menu 2 screen



- Edit
Edits position data, programs, symbols, parameters and coordinate system data. Displays the actuator status and performs manual operation (teaching).
- Play
Performs program operation and checks the task status.
- Monitor
Displays I/O port, global flag, global variable, error list, version information, maintenance information, axis status, system status, etc.
- Controller
Sets and outputs operation commands for "Flash ROM Writing", "Software Reset", "Error Reset", "Memory Clear", "Re-connection", "Baud Rate Change", "Request Power Recovery", "Request Release Pause", "Absolute Reset", "Safety Velocity", "Multi Task", etc.
- File
Reads and saves position data, programs, parameters, symbols, error list and global data.
- Environment Set
Sets the language, touch tone, turn-off time, display and time.
- Teaching update
Updates the TB-03 software.

: Returns to the preceding screen.

(Note) The displayed screens and executable functions are different between the controller models. For details, refer to the instruction manual.

Screenshot

It is possible to save the image on the current screen (screenshot) into SD memory card.
When you want to capture a screenshot, press the lower right portion on the screen for about 2 seconds longer than usual on condition that SD memory card is inserted.
After a short sound is heard, saving the screenshot starts. (If the touch tone is set to "OFF", the sound is not heard.) When saving is completed, the save file name is displayed for 3 seconds on the screen.



File name : IMG_YYMMDDHHMMSS.bmp (751KB)
Example : When the save processing starts at 12:34:56 on Aug. 9, 2017, the file name is "IMG_170809123456.bmp".



Insert SD memory card beforehand.

Press this portion longer than usual.

Domain to Save Data (cannot be changed)
The domain that the screenshot data is saved is the folder stated below in a SD memory card.
\\TB_CON\\ScreenShot\\ (position controller, ELECYLINDER)
\\TB_SEL\\ScreenShot\\ (program controller)

[Cautions]

1. The saving process takes approximately 10 seconds at the maximum.
2. During the saving process, the monitor display (such as the current position) on the screen does not get updated.
3. There are some screens that you cannot get screenshots.

Warning : As keys do not work on the screen during saving process, emergency stop will not work. Do not attempt to use this feature when an actuator is operated (continuous movement, simple program, etc.) from the teaching.

Actuator Driving Power Supply Unit for Teaching Pendant

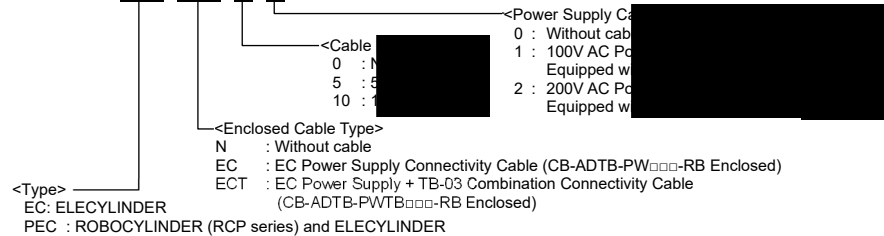
1. Basic Specification

Item		Specification	
Rated Input Voltage		Single-Phase AC100 to 230V ±10%	
Input Current		1.4A typ. (AC100V), 0.6A typ. (AC230V)	
Frequency Range		50/60Hz±5%	
Power Capacity		141VA (AC100V), 145VA (AC230V)	
Output Voltage		DC24V ±10%	
Load Current	ELE CYLINDER	Standard, High Stiffness Dust Proof and Drip Proof	When Power Saving Setting Invalid: Rating 3.5A, Max. 4.2A When Power Saving Setting Valid: Rating 2.2A, Max. 4.2A
		Slim and Small Type	MAX. 2.0A
	ROBO CYLINDER	20P, 20SP, 28P, 35P, 42P, 42SP, 56P	When High Output Setting Invalid: Max. 2.2A When High Output Setting Valid: Rating 3.5A, Max. 4.2A
		56SP, 60P, 86P	Max. 6.0A
Output Capacity (ELECYLINDER)		When Power Saving Disabled: Rated 84W, Max. 98.4W When Power Saving Enabled: Rated 52.8W	
Heat Radiation (ROBOCYLINDER)	20P, 20SP, 28P, 35P, 42P, 42SP, 56P	RCP2, RCP3 : 5W RCP4, RCP5, RCP6 : 8W	
	56SP, 60P, 86P	19.2W	
Ambient Operating Temperature		0 to 40°C (Should be no-condensing or freezing)	
Ambient Operating Humidity		5%RH to 85%RH (Should be no-condensing or freezing)	
Ambient Storage Temperature		-20 to 70°C	
Ambient Storage Humidity		5%RH to 85%RH (Should be no-condensing or freezing)	
Atmosphere		There should be no corrosive gas around, especially be mindful of dust	
Altitude		1000 meters or less above the sea level	
Vibration Endurance		Vibration 10 - 57Hz/Amplitude: 0.075mm Vibration 57 - 150Hz/Acceleration: 9.8m/s ² X/Y/Z direction Sweep time: 10 min. Sweep repetition: 10 times	
Drop in Package		Dropping Height 800mm, 1 corner + 3 edges + 6 surfaces	
Overvoltage Category		II	
Pollution Level		2	
Protection Class for Electric Shock		II	
Degree of Protection		IP30	
Mass		ADTB-EC : Approx. 740g / ADTB-PEC : Approx. 825g	
Air-cooling System		TB-03E : Natural cooling / TB-03P : Forced air cooling with internal fan	

2. How to read the model No.

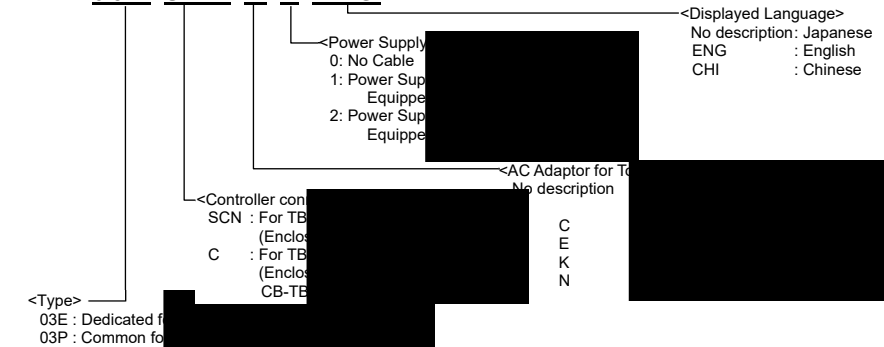
1) Model Code for Actuator Driving Power Supply Unit (ADTB) Individually

ADTB-EC-EC-5-1

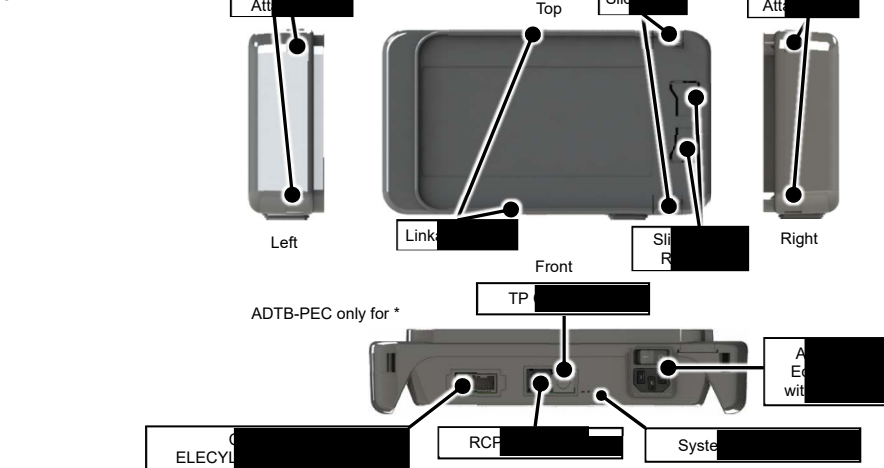


2) Teaching Pendant Equipped with Power Supply Unit (TB-03 + Drive Power Supply Unit ADTB Set Model Code)

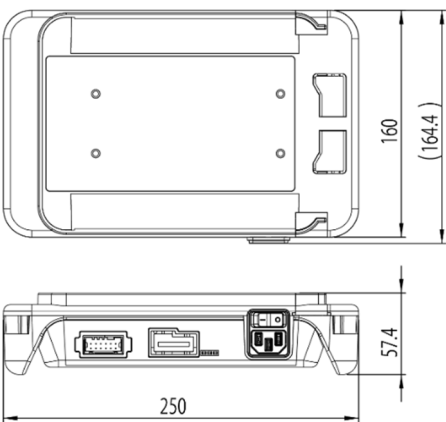
TB-03E-SCN-C-1-ENG



3. Name of Each Part

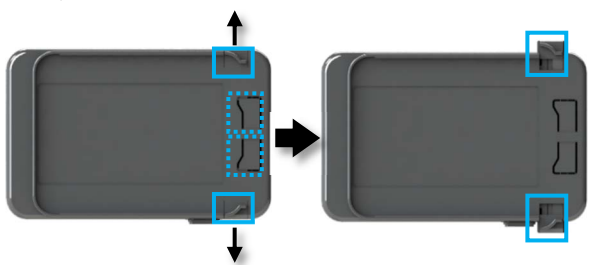


4. External Dimensions

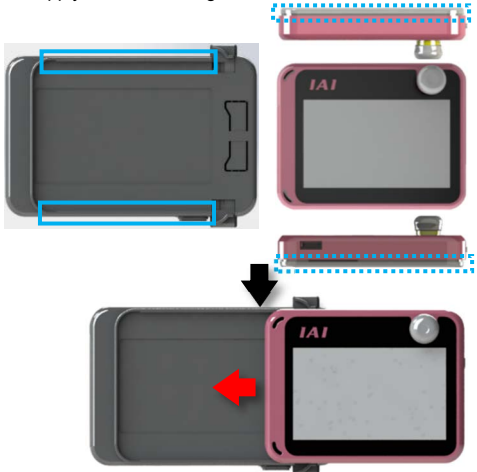


5. How to Join Unit

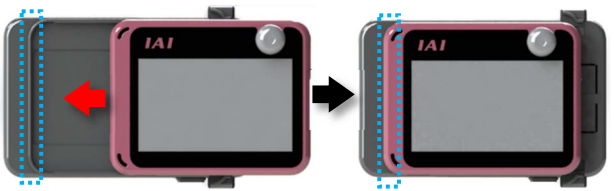
(1) While pressing the slide lock release (broken line areas) on the driving power supply unit, slide the slide locks (solid line areas) outside to make them open.



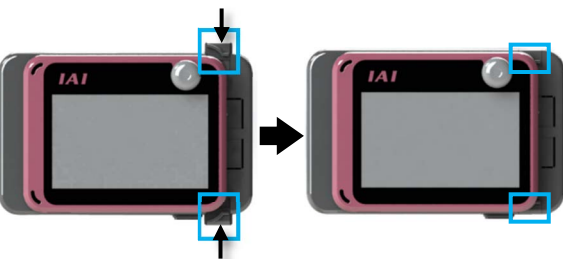
(2) Insert the slots (broken line areas) on a teaching pendant to the linkage guides (solid line areas) on the actuator driving power supply unit from the right side.



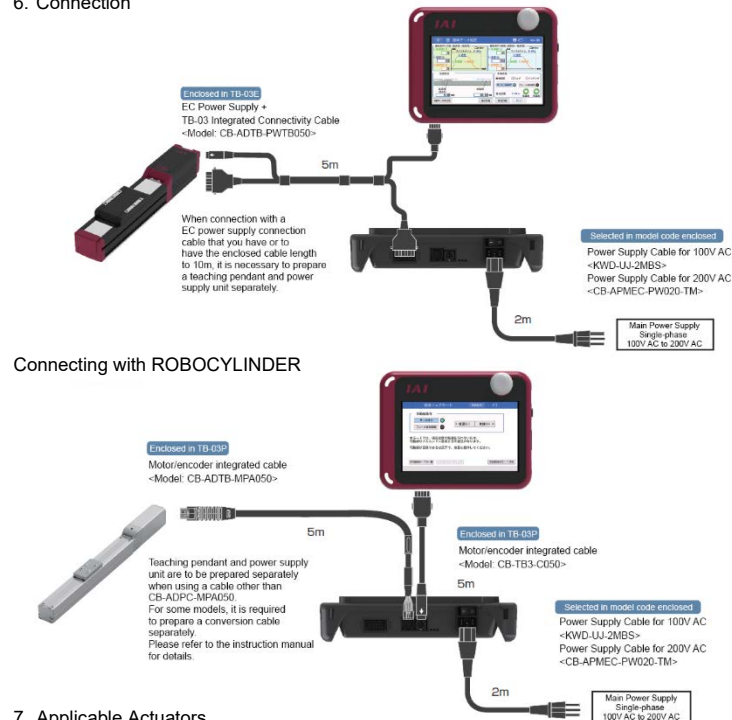
(3) Insert the teaching pendant along the linkage guides on the actuator driving power supply unit till the teaching pendant reaches the area marked with the broken line.



(4) Slide the slide locks till it gets locked in order to lock the teaching pendant.



6. Connection



7. Applicable Actuators

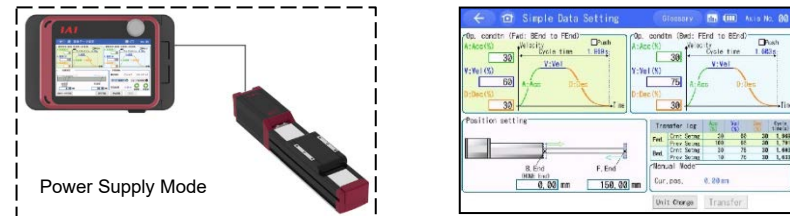
EC Type Trial run of ELECYLINDER (24V pulse motor type) is capable.

PEC Type ... Trial run of ROBOCYLINDER (pulse motor type: RCP2 Series and later) and ELECYLINDER (24V pulse motor type).

8. Trial operation

(1) ELECYLINDER operation

When having a trial run of ELECYLINDER, as an actuator is operated by the controller built in ELECYLINDER, ADTB is to be used only for power supply to ELECYLINDER.

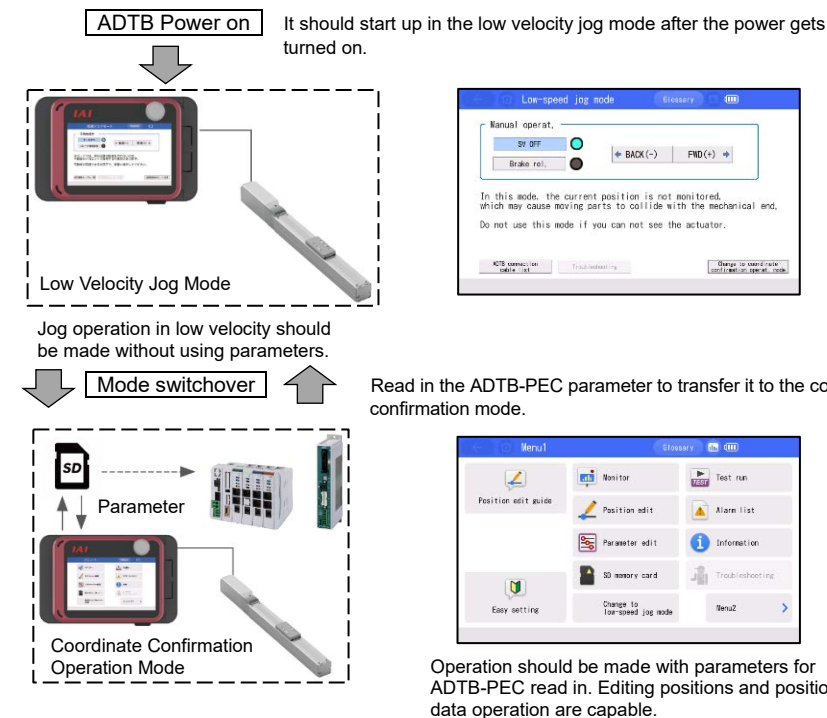


Supply power to ELECYLINDER and ELECYLINDER can operate in normal condition.

(2) ROBOCYLINDER operation

When having a trial run on ROBOCYLINDER, ADTB can be a simple controller.

Operation such as jog operation in low velocity without using parameters and operation with parameters applicable for a position controller installed separately read from a Secure Digital card to ADTB is capable.



[About Parameter File for ADTB-PEC]

The parameter file for ADTB-PEC is necessary in order to switch over to the coordinate confirmation operation mode.

A parameter file for ADTB-PEC cannot be created by a user.

If a parameter file is required, confirm the model code of an actuator and the serial number described on the model code nameplate sticker attached on the side of the main unit, and request to a sales person in charge.

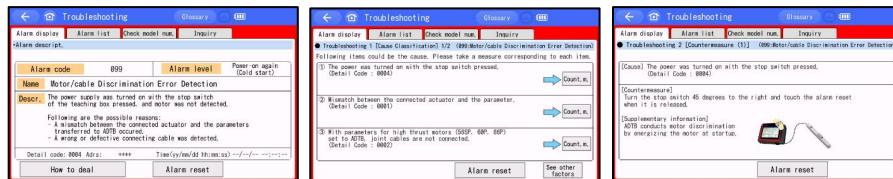
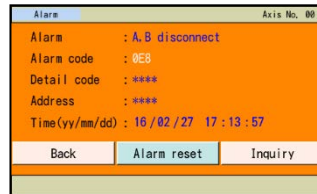
Treatment in an Emergency

For SEP System / MEC System Controllers

If an alarm occurs, the alarm screen appears. In alarms, there are those generated in a controller and those generated in a touch panel teaching. If the generated alarm code is 000 to 0FF, refer to the instruction manual of the controller, and if it is 100 to 3FF, refer to the touch panel teaching instructions.

For ELECYLINDER, CON System / SEL System Controllers

If an alarm occurs, the troubleshooting screen appears. Touch [How to deal] to confirm the cause, touch [Count.m.] to confirm the countermeasures, conduct the measures and touch [Alarm reset].



IAI Corporation

Head Office: 1210 Iharacho Shimizu-KU Shizuoka City Shizuoka 424-0114, Japan
TEL +81-54-364-5105 FAX +81-54-364-2589
website: www.iai-robot.co.jp/

IAI America, Inc.

Head Office: 2690 W. 237th Street, Torrance, CA 90505
TEL +1-310-891-6015 FAX +1-310-891-0815
Chicago Office: 110 East State Parkway, Schaumburg, IL 60173
TEL +1-847-908-1400 FAX +1-847-908-1399
Atlanta Office: 1220 Kennestone Circle, Suite 108, Marietta, GA 30066
TEL +1-678-354-9470 FAX +1-678-354-9471
website: www.intelligentactuator.com

Technical Support available in Europe

IAI Industrieroboter GmbH

Ober der Röth 4, D-65824 Schwalbach am Taunus, Germany
TEL +49(0)6196-88950 FAX +49(0)6196-889524
website: www.iai-automation.com

Technical Support available in Great Britain



Duttons Way, Shadsworth Business Park, Blackburn, Lancashire, BB1 2QR, United Kingdom
TEL +44(0)1254-685900
website: www.lcautomation.com

IAI (Shanghai) Co., Ltd.

SHANGHAI JIAHUA BUSINESS CENTER A8-303, 808, Hongqiao Rd. Shanghai 200030, China
TEL +86-21-6448-4753 FAX +86-21-6448-3992
website: www.iai-robot.com

IAI Robot (Thailand) Co., Ltd.

825 PhairojKijja Tower 7th Floor, Debaratana RD., Bangna-Nuea, Bangna, Bangkok 10260, Thailand
TEL +66-2-361-4458 FAX +66-2-361-4456
website: www.iai-robot.co.th